ANNUAL WATER QUALITY REPORT 2014

Throughout this report customers will be able to find useful information specifically related to the City of San Bruno water system, as well as information related to drinking water in general. The primary mission of this report is to summarize the past year's water quality data that are found in the tables at the end of this brochure. You will also find valuable information about City's current operations as well as future changes or improvements to the water system. The City of San Bruno continues its commitment to provide you with safe, high quality drinking water.

Where The City's Water Supply Comes From

The water supply for the City of San Bruno is derived from two sources. Approximately 50% of the daily water demand comes from four of the City's groundwater wells, the other half is purchased from the San Francisco Public Utilities Commission (SFPUC).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, streams, ponds, reservoirs, springs, and wells.

Supplied by the San Francisco Regional Water System (SFRWS), our major water source originates from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. The pristine, well protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board's Division of Drinking Water (SWRCB). Water treatments provided by the SFRWS, including disinfection by ultraviolet light and chlorine, corrosion control by adjustment of the water pH value, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing disinfection byproduct formation, are in place to meet the drinking water regulatory requirements.

The Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties are collected in the Calaveras and San Antonio reservoirs for filtration and disinfection at the Sunol Valley Water Treatment Plant. Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in the Crystal Springs, San Andreas, and Pilarcitos reservoirs, and are filtered and disinfected at the Harry Tracy Water Treatment Plant.

As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2014.

Water System Operations

Effective operation and maintenance of the distribution system ensures that the water maintains its quality as it travels through the system to your tap. The disinfectant residual in the water after treatment prevents the re-growth of microbial organisms during storage and transmission of water in the distribution system. The flushing of City's water mains and rotation of stored supplies also keeps the water fresh and limits the possibility for growth of such organisms.

The San Bruno Water Division conducts a comprehensive water quality assurance program. We collect over fifty samples a month throughout our system and send them to a state certified laboratory for testing. All samples have tested negative for coliforms and met all water quality standards in 2014.

Other water samples are collected periodically to check for levels of lead and copper, disinfection by-products [trihalomethanes and haloacetic acids – THMs and HAAs] and general physical components as required by state and federal regulations.

The San Bruno Water Division daily maintains water quality at our well facilities, SFPUC turnouts, storage tanks, and pump stations throughout the distribution system. These sites are monitored and maintained by City staff and our computerized SCADA (Supervisory Control and Data Acquisition) system that provides our water division managers with continuous automated water quality information.

In addition, The City of San Bruno Water Division, along with the San Mateo County Environmental Health Department administers and manages a cross- connection prevention program to eliminate possible contamination to our drinking water through backflow prevention devices. The program includes yearly testing of all city-owned backflow devices and monitoring of compliance on privately owned back flow devices*.

**** A note to residents and business owners who have backflow prevention devices: State regulations require that all backflow prevention devices be tested annually by a certified inspector.***

Protecting Our Watersheds

The SFPUC's annual Hetch Hetchy Watershed Sanitary Survey evaluates the sanitary conditions, water quality, potential contamination sources, and the results of watershed management activities with partner agencies including the National Park Service and US Forest Service.

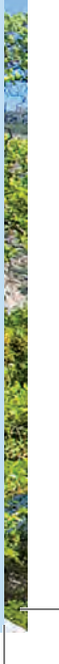
The SFPUC also conducts sanitary surveys every five years to detect and track sanitary concerns for the local watersheds and the approved standby water sources in Early Intake Watershed, which includes Cherry Lake and Lake Eleanor. The latest 5-year surveys were completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock, and human activities as potential contamination sources. The reports are available for review at the San Francisco District office of SWRCB (510) 620-3474.

Water Quality

The SFPUC's Water Quality Division (WQD) regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds federal and state drinking water standards. In 2014, WQD staff conducted more than 52,000 drinking water tests in the transmission and distribution systems. This is in addition to the extensive treatment process control monitoring performed by the SFPUC's certified operators and online instruments.

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Such substances are called contaminants.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, the USEPA and SWRCB prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.



Contaminants and Regulations

Contaminants That May Be Present In Source Water Include:

Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production, and mining activities.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline 800-426-4791.

Reducing Lead from Plumbing Fixtures

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There are no known lead service lines in the SFRWS. We are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. It is possible that lead levels at your home may be higher than at others because of plumbing materials used in your property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead levels in your water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA's Safe Drinking Water Hotline ***(800) 426-4791***, or at ***www.epa.gov/safewater/lead***.

Water Conservation Awareness

On April 1, 2015 Governor Brown signed an executive order to cut the state's overall water usage by 25% from 2013 levels.

San Bruno activated the Water Shortage Contingency Plan on April 14, 2015, in response to recent State Water Resources

Control Board requirements limiting outdoor water use to no more than two days per week.

San Bruno has implemented the following new outdoor water use restrictions.

- 2-day per week irrigation schedule
- Maximum 15 minutes per day
- Odd address – Monday and Thursday
- Even Address Tuesday and Friday
- No Address – Monday and Thursday

For additional information about the drought and conservation tips on the City of San Bruno's website at www.sanbruno.ca.gov and Bay Area Water Supply and Conservation Agency's website at www.bawsca.org

Water Conservation tips:

1. Install a low flow showerhead and take 5-minute or less showers. Free showerheads and timers available.
2. Catch water in a watering can or a bucket while waiting for water to get hot.
3. Replace your toilet with a high-efficiency model or put a water displacement bag in each toilet tank. Free displacement bags are available and rebates are available for qualifying high-efficiency toilets.
4. Fix all leaky toilets, faucets and pipes. Install low flow faucet aerators in the kitchen and bathroom. Free low flow aerators are available.
5. Scrape plates and run the garbage disposal less frequently. Compost food scraps instead.
6. Turn off the water while brushing your teeth and shaving.
7. Run only full loads in dishwashers and clothes washers. Replace these appliances with water efficient machines. Rebates are available for qualifying high-efficiency clothes washer models.
8. Water lawns/landscaping between 8:00 pm and 10:00 am. Be sure not to over water landscaping. Check and adjust sprinkler heads seasonally. Plant drought-tolerant and native plants.
9. Use a carwash facility or use a bucket of water and one short rinse to wash your car; wash on a permeable surface (grass or gravel).
10. Sweep (never hose) driveways, patios and sidewalks.

You can pick-up free water saving devices at City Hall's Public Services Counter, Monday-Friday, 8:00 am-5:00 pm: Showerheads, faucet aerators, shower timers, toilet leak tablets, and garden and landscaping guides. Rebates are available for high efficiency toilets, clothes washers. For additional information about the drought and conservation tips on the City of San Bruno's website at ***www.sanbruno.ca.gov*** and Bay Area Water Supply and Conservation Agency's website at ***www.bawsca.org***.

Fluoridation and Dental Fluorosis

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. Our water has been fluoridated at 0.9 milligram per liter until May 2015, when the new State regulatory guidance was issued. The water is now fluoridated at a new optimal level of 0.7 mg/L. Infants fed formula mixed with water containing fluoride at this level may have an increased chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. CDC considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products. Contact your health provider or SWRCB if you have concerns about dental fluorosis. For additional information visit the SWRCB website www.swrcb.ca.gov/ and search for fluoride, or the CDC website www.cdc.gov/fluoridation.

KEY WATER QUALITY TERMS

Following are definitions of key terms referring to standards and goals of water quality noted on the adjacent data table.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water..

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below that there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Turbidity: A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2014. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of Cryptosporidium may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

SFPUC's Regional Groundwater Project Will Kick Off Construction in 2015

The SFPUC's Regional Groundwater Storage and Recovery (GSR) Project is a partnership with the cities of Daly City and San Bruno and the California Water Service Company that can provide 7.2 million gallons of water per day to protect against future droughts and earthquakes. Construction is scheduled to begin in 2015 and be completed in 2018. The GSR project balances the use of both groundwater and surface water in the South Westside Groundwater Basin (northern San Mateo County). During years of normal or heavy rainfall, the project will provide additional surface water to the partner agencies in order to reduce the amount of their groundwater pumping. Over time, the reduced pumping will create a groundwater savings account of up to 60,500 acre-feet of water or 20 billion gallons — a volume equivalent to that of the SFPUC's Crystal Springs Reservoir. In dry years, when less surface water is available, the stored water would be pumped from the new groundwater wells and benefit the 2.6 million people in the Bay Area who rely on the SFRWS.

WATER QUALITY DATA FOR YEAR 2014

				SFPUC		San Bruno		
DETECTED CONTAMINANTS	**UNIT**	**MCL**	**PHG OR (MCLG)**	**RANGE OR LEVEL FOUND**	**AVERAGE OR [MAX]**	**RANGE OR LEVEL FOUND**	**AVERAGE OR [MAX]**	**MAJOR SOURCES IN DRINKING WATER**
TURBIDITY								
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.6[1]	[2.8]	N/A		Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU	1[2]	N/A	--	[0.98]			
	--	min 95% of samples ≤0.3 NTU [2]	N/A	97% - 100%	--			
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1[2]	N/A	--	[0.07]			
	--	min 95% of samples ≤0.3 NTU [2]	N/A	100%	--			
DISINFECTION BYPRODUCTS AND PRECURSOR								
Total Trihalomethanes	ppb	80	N/A	33 - 77	[55][3]	4.21 - 43	20.6	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	30 -51	[44][3]	ND - 32.9	11.7	Byproduct of drinking water disinfection
Total Organic Carbon[4]	ppm	TT	N/A	1.3 - 2.8	1.9	N/A	N/A	Various natural and man-made sources
MICROBIOLOGICAL								
Total Coliform	--	NoP ≤5.0% of monthly samples	0	N/A	N/A	0	0	Naturally present in the environment
Giardia lamblia	cyst/L	TT	0	<.01 - .04	<0.01	0	0	Naturally present in the environment
INORGANIC CHEMICALS								
Fluoride$_{(source\ water)}$[5]	ppm	2	1	ND - 0.8	0.4[6]	.14 - .16	0.14	Erosion of natural deposits; water additive to promote strong teeth
Chloramine(as chlorine)	ppm	MRDL=4.0	MRDLG=4	0.4 - 2.9	[2.2](7)	1.0 - 3.2	[2.29](7)	Drinking water disinfectant added for treatment
Nitrate (as NO 3)	ppm	45	2	N/A	N/A	ND - 7.5	3.02	Natural occuring organic material
RADIONUCLIDES								
Gross Alph Particle Activity	pC/L	15	0	N/A	N/A	ND	ND	Erosion of natural deposits

CONSTITUENTS WITH SECONDARY STANDARDS	**UNIT**	**SMCL**	**PHG**	**RANGE**	**AVERAGE**	**RANGE**	**AVERAGE**	**TYPICAL SOURCES OF CONTAMINANT**
Chloride	ppm	500	N/A	<3 - 15	9	72	72	Runoff/leaching from natural deposits
Odor Threshold	TON	3	N/A	ND - 1	ND	ND	ND	Naturally occurring organic materials
Specific Conductance	µS/cm	1600	N/A	32 - 222	169	42 - 546	250	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.9 - 32	17	0.27	0.27	Runoff/leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	31 - 120	81	310	310	Runoff/leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.2	0.1	.05 - .93	0.14	Soil runoff
Iron	ppm	0.3	N/A	ND	ND	ND - .01	0.01	Leaching from natural deposits
Manganese	ppm	0.05	N/A	ND	ND	ND -<.02	0.<02	Leaching from natural deposits

LEAD AND COPPER[8]	**UNIT**	**AL**	**PHG**	**RANGE**	**90TH PERCENTILE**	**RANGE**	**90TH PERCENTILE**	**MAJOR SOURCES IN DRINKING WATER**
Copper	ppb	1300	300	N/A	N/A	4.1 - 582	224.1	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	N/A	N/A	<1.0 - 10.2	3.2	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	**UNIT**	**ORL**	**RANGE**	**AVERAGE**	**RANGE**	**AVERAGE**	**KEY**
Alkalinity$_{(as\ CaCO3)}$	ppm	N/A	8 - 94	37	14 - 152	91.4	< / ≤ = less than / less than or equal to
Bromide(9)	ppb	N/A	ND - 27	5	N/A	N/A	AL = Action Level
Calcium$_{(as\ Ca)}$	ppm	N/A	3 - 20	11	32	32	Max = Maximum
Chlorate[10]	ppb	800 (NL)	34 - 740	314	53 -200	208	Min = Minimum
Hardness$_{(as\ CaCO3)}$	ppm	N/A	7 - 77	46	42 - 546	228	N/A = Not Available
Magnesium	ppm	N/A	<0.2 - 6.4	3.9	19-39	29.3	ND = Non-Detect
pH	-	N/A	6.9 - 10.2	9.3	7.01 -7.83	7.5	NL = Notification Level
Potassium	ppm	N/A	.02 - 1	0.06	N/A	N/A	NoP = Number of Coliform-Positive Sample
Silica	ppm	N/A	2 - 5	4	N/A	N/A	NTU = Nephelometric Turbidity Unit
Sodium	ppm	N/A	2.4 - 16	10	0.45	0.45	Ton = Threshold Odor Number

Footnotes;

(1) These are monthly average turbidity values measured every 4 hours daily.

(2) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.

(3) This is the highest locational running annual average value

(4) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.

(5) The SWRCB specifies the fluoride level in the treated water be maintained within a range of 0.8 ppm - 1.5 ppm. In 2014, the range and average of the fluoride levels were were 0.6 ppm - 1.2 ppm, and 0.9 ppm respectively.

(6) The natural fluoride levels in the Hetch Hetchy supply was ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the reservoirs.

(7) This is the highest quarterly running annual average value.

(8) The most recent Lead and Copper Rule monitoring was in August 2012.

(9) Bromide was detected in HTWTP effluent only.

10) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.

Note: The different water sources blended at different ratios throughout the year have resulted in varying water quality.

Additional water quality data may be obtained by calling the City of San Bruno Water Division at (650) 616-7162

ORL = Other Regulatory Level

ppb = part per billion

ppm = part per million

µS/cm = microSiemens / centimeter

SPECIAL HEALTH NEEDS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline 800-426-4791 or at www.epa.gov/safewater.

HOW CAN THE PUBLIC BE INVOLVED?

Meetings of the City of San Bruno City Council begin at 7:00 PM on the second and fourth Tuesdays of each month and are open to the public. Meetings are held at the San Bruno Senior Center located at 1555 Crystal Springs Road.

If you have any questions or need further information, please feel free to contact the City of San Bruno Water Division at (650) 616-7162, or by mail at City of San Bruno Water Division, 567 El Camino Real, San Bruno, CA 94066-4247.
A copy of the 2014 Consumer Confidence Report will also be posted on the City's website at www.sanbruno.ca.gov.

The SFPUC meets on the second and fourth Tuesdays of the month at 1:30 pm at the San Francisco City Hall, room 400. The public is invited to participate in these meetings.

This report contains important information about your drinking water.Translate it, or speak with someone who understands it.

Vea nuestro 2014 informe Anual de Calidad del Agua en sfwater.org/qualitymatters.

查閱2014年水質報告sfwater.org/qualitymatters

567 El Camino Real
San Bruno, CA 94066

City of San Bruno
Public Works Department
Water Division

567 El Camino Real
San Bruno, CA 94066-4247

PRSRT STD
U.S. Postage
PAID
San Bruno, CA
Permit #84